

Appl. No. 10/708,606  
Response dated June 3, 2005

## REMARKS

By this amendment, claims 15 – 21 are canceled; new claims 22 – 37 are presented; and claims 1 – 14 and 22 – 37 are pending. Claims 1, 5-7 and 11-14 stand rejected as anticipated by *LeBlanc*; claims 2-4 and 8-10 stand rejected as obvious in view of *LeBlanc*, *Henningsen* and/or *Cizmer*; and claims 15-21 were withdrawn from examination due to a restriction requirement. Claim 14, previously withdrawn due to a restriction requirement, has been rejoined for examination as claim 14 is a linking claim. Further examination of the application, as amended and reconsideration of the rejections are respectfully requested.

## No New Matter

New claims 22 – 37 have been added to emphasize that the reactor effluent from the POX reactor is at a temperature greater than 1100°C and/or that the POX reactor is a non-catalytic reactor. Support for these limitations can be found, inter alia, in the specification at original paragraphs [0003] incorporating references directed to POX reactors disclosing free flow, unpacked, non-catalytic partial oxidation reactors where the reactor effluent is at a temperature between 1300°F to 3500°F (700°C to 1650°C). Support for claims 26 – 37 can be found, inter alia, in amended claims 2 – 6 and in original claims 7 – 13 as previously presented; support for heat recovery from the first reactor effluent can be found in the specification at paragraph [0011].

## § 102 Rejections

There are at least three types of reactors that are well-known in the art for producing syngas: (1) steam reformers (also abbreviated as SMR), (2) autothermal reformers (also abbreviated as ATR), and (3) partial oxidation or POX reactors. In steam reformers, steam and hydrocarbon without added air or oxygen are fed to catalyst-filled tubes heated in a radiant furnace. In autothermal reformer reactors,